

REMARKS

Claims 1-4 and 10 are presently pending in the application.

At the outset, it is noted that the Examiner has cited three new prior art references, which were not previously cited in the Information Disclosure Statement filed by Applicants, but has not provided with the Office Action a Notice of References Cited (PTO-892). It is requested that the Examiner provide with the next action a PTO-892 citing the three references relied upon, as well as any other references considered by the Examiner but not relied upon, so that the considered references appear on any patent issuing on the present application as having been considered.

At page 2 of the Office Action, the Examiner has objected to the first sentence of the application as not correctly indicating the current status of the parent application or the relation of the present application to the parent application No. 09/585,146. The Examiner notes that the instant application is indicated as a divisional of the parent application, but contends that the claims of the instant application were not present in the parent application as filed. Therefore, the Examiner questions whether the instant application should be a continuation, instead of a divisional.

The CROSS-REFERENCE TO RELATED APPLICATIONS section of the application has been amended to update the status of the parent application by providing the patent number. However, the status of the present application as a division is correct and has not been changed. While the parent application as filed did not include the present claims, claims 12-23 were added to the parent application by a Preliminary Amendment filed October 17, 2000. The Examiner in the parent application issued a Restriction Requirement dated September 28, 2001, restricting the application between claims 1-11, directed to a process of examining a surface of an object, and claims 12-23, directed to a process of structuring the surface of an object. Claims 1-11 were elected in a response filed October 29, 2001 in the parent application and eventually issued as claims 1-11 of U.S. Patent 6,656,678. Claims 12-23 were cancelled, without prejudice to the filing of a divisional application, and were eventually refiled as the present divisional application.

At pages 3-5 of the Office Action, the Examiner has rejected claims 1-12 under 35 U.S.C. § 112, first paragraph, as failing to satisfy the written description requirement because they contain subject matter not described in the specification in such a way to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention at the time the application was filed. In particular, the Examiner holds that the following terms are not adequately described: “bio-components that carry away surface material” (claim 1); “material-selective specialized for carrying away one or more materials” (claim 8); “osmotic protective medium” (claims 1, 9 and 11); “separation product” (claim 2); “adherently attached” (claims 2, 5 and 7); “form a surface structure” (claim 5); and “surface structure-selective bio-components” (claim 12). The Examiner concedes that the genera of some of these components are discussed in the specification, but contends that there is no evidence that any representative species of these genera were in the possession of the inventors at the time of filing. To satisfy the written description requirement, the Examiner holds that it must be clear that (1) identifying characteristics of the claimed molecules have been disclosed and (2) a representative number of species within the genus must be disclosed. This rejection is respectfully but strenuously traversed for the reasons set forth below.

First, most of the terms rejected by the Examiner as failing to satisfy the written description requirement have been cancelled, particularly those which were present in cancelled claims 5-9, 11 and 12. Therefore, the rejection is moot with respect to these terms. Second, Applicants strenuously object to the Examiner’s application of the written description requirement to claim elements which are defined in terms of their function, similar to means plus function claims. The requirements set forth by the Examiner to satisfy the written description requirement are specifically directed to a claimed genus of molecules, which is not the situation in the present application.

Third, it is noted that the remaining terms in the claims which were objected to by the Examiner, including “bio-components” and “osmotic protective medium” appear in the claims of U.S. Patent 6,656,678, which issued on the parent application. Thus, in the parent application, the terms now objected to by the Examiner as failing to satisfy the written description requirement were not similarly rejected, but instead, were found to satisfy the written description

requirement. The present Examiner should give full faith and credit to this finding of the prior Examiner, particularly since Examiner Jon P. Weber is an experienced primary Examiner.

In any event, contrary to the Examiner's contention, at least several representative species of the genus of bio-components are disclosed at page 3, lines 22-23 of the present specification, where it is stated that easily handled surface structure selective cells of the cell type LS 174 T or highly surface-selective tumor cells can be used as bio-components. Further examples of the bio-components useful in the invention are described at page 2, lines 18-22. Moreover, depending upon the particular bio-component selected, it is submitted that one skilled in the art will readily recognize suitable nutrient media and/or osmotic protective media for the bio-components. Therefore, it is not necessary to disclose specific nutrient media or osmotic protective media which are readily available and known in the art.

For all of the above reasons, it is respectfully requested that the Examiner's rejection of the claims as failing to satisfy the written description requirement be reconsidered and withdrawn.

At pages 5-8 of the Office Action, the Examiner has rejected claims 1-12 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. The Examiner contends that the claims read on subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. In this rejection, the Examiner objects to the same terms as discussed above with respect to the written description requirement. The Examiner further contends that the scope of the instant claims is not commensurate with the enablement of the instant disclosure because practice of the claimed invention would require undue experimentation by one skilled in the art. This rejection is also respectfully but strenuously traversed for the reasons set forth below.

As noted above in the discussion of the written description requirement, most of the terms rejected by the Examiner are no longer present in the claims, due to the cancellation of claims 5-9, 11 and 12. Accordingly, with respect to these terms, the rejection is moot.

Also, as noted above in connection with the written description requirement, the remaining terms "bio-components" and "osmotic protective medium" appear in the claims of U.S. Patent 6,656,678. Thus, these terms were found by the Examiner in the parent application

to satisfy the enablement requirement, and the present Examiner should give full faith and credit to the holding of the prior Examiner with respect to the same terms.

In any event, the claims have now been amended to be directed to a particularly preferred embodiment, namely the field of semiconductor technology, where a surface layer of a semiconductor wafer is structured. See, for example, the discussion of this aspect of the invention starting at page 5, line 14 through page 7 of the specification.

In view of all of the above, reconsideration and withdrawal of the rejection based upon the enablement requirement are respectfully requested.

At pages 8-10 of the Office Action, the Examiner has rejected claims 1-12 under 35 U.S.C. § 102(b) as being anticipated by each of U.S. Patent 5,605,835 of Chen et al., U.S. Patent 5,433,854 of Dickerson or U.S. Patent 6,143,705 of Kakizawa. These rejections are also respectfully but strenuously traversed for the reasons set forth in detail below.

The Examiner contends that Chen discloses a process for structuring the surface layer of a fluid conveying system of a food processing plant, medical device, airplane fuel tank or pipeline filter, or a waste water discharge line of a heat exchanger in a nuclear power plant. Chen does not disclose the structuring of a surface of semiconductor wafer and is therefore irrelevant to the presently claimed invention. Accordingly, reconsideration and withdrawal of the rejection based upon Chen are respectfully solicited.

The Examiner contends that Dickerson discloses a process for structuring the surface layer of the interior surfaces of a concrete waste water lift station. Dickerson does not disclose the structuring of a surface layer of a semiconductor wafer and is therefore irrelevant to the presently claimed invention. Accordingly, reconsideration and withdrawal of the rejection based upon Dickerson are respectfully solicited.

The Examiner contends that Kakizawa discloses a process for structuring the surface layer of a semiconductor substrate, in which the surface is contacted with a bio-component, namely an acid that is naturally present in cells, such as acetic acid, lactic acid, citric acid, aspartic acid or glutamic acid, and an osmotic protective medium, such as a solution of ammonium chloride. The bio-component allegedly binds surface materials such as iron,

aluminum and copper ions, and when the bio-component and osmotic protective solutions are rinsed off, the surface materials are removed. This rejection is respectfully traversed for the reasons set forth below.

Although Kakizawa involves a process for structuring the surface layer of a semiconductor substrate, Kakizawa only discloses the use of bio-components for cleaning a semiconductor wafer. In contrast to the presently claimed invention, there is no disclosure in Kakizawa that the applied bio-components can be used as a structure element of the semiconductor wafer. See amended claim 1 and the related discussion at page 7, first full paragraph, where it is explained, for example, that in the manufacture of a semiconductor wafer the wafer surface can be constructed in such a manner that the bio-components settle only at certain places in order to form there a dielectric and/or to structure a surface area of the wafer.

Accordingly, Kakizawa et al. does not disclose or suggest the presently claimed invention, and reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above amendments and Remarks, it is submitted that all of the presently pending claims fully comply with the written description and enablement requirements of 35 U.S.C. § 112, as well as patentably distinguishing over the prior art of record. Accordingly, reconsideration and an early Notice of Allowance are respectfully solicited.

Respectfully submitted,
Bernhard Wolf et al.

August 4, 2005
Date

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Enclosures – Petition for Extension of Time (three months)
Supplemental Information Disclosure Statement

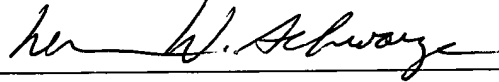
Enclosed is our check in the amount of \$180.00 pursuant to 37 C.F.R. §1.97(d)(2) and 37 C.F.R. §1.17(p). The Commissioner is hereby authorized to charge any deficiencies or credit any overpayments to Deposit Account No. 50-1017.

This Information Disclosure Statement is being submitted after the mailing date of first Office Action, but before a final rejection or notice of allowance.

It is respectfully requested that this Information Disclosure Statement and the documents listed on the attached Form PTO/SB/08A and/or 08B be considered and acknowledged by the Examiner in connection with the above-identified patent application, be made of record therein, and that the listed document(s) be cited in the issued patent.

Respectfully submitted,

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August 4, 2005
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Enclosures